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IgG1λ light and heavy chain renal amyloidosis

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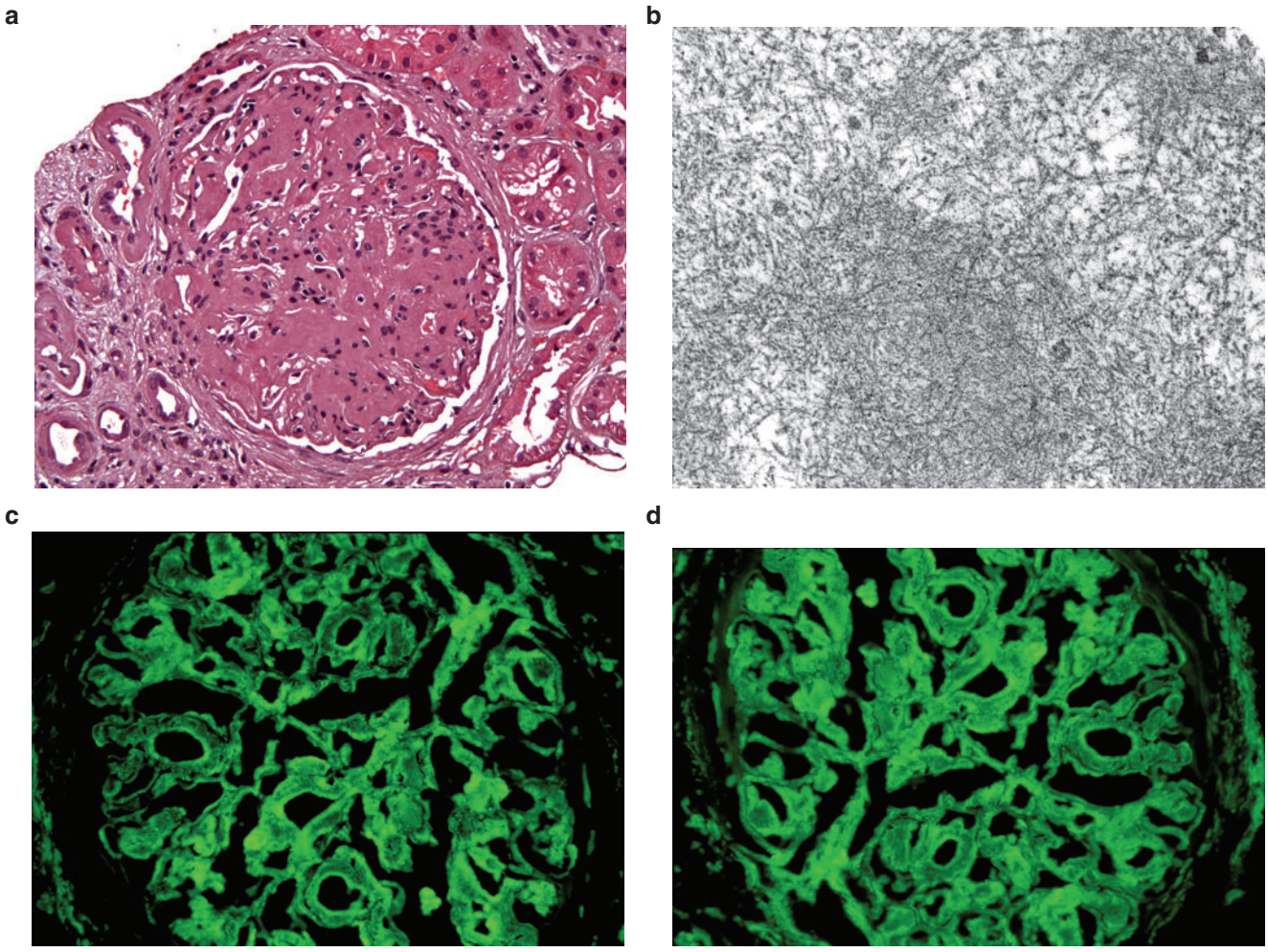

Figure 1 | Renal biopsy findings. (**a**) Eleven of 15 glomeruli sampled for light microscopy were globally sclerotic. The remaining four glomeruli exhibited global expansion of the mesangial matrix by amorphous eosinophilic material. Congo red staining confirmed the diagnosis of amyloidosis (not shown). (Hematoxylin and eosin; original magnification, ×200.) (**b**) Ultrastructural evaluation revealed randomly oriented fibrils with a mean diameter of 12 nm, supporting the diagnosis of amyloidosis. (Original magnification, ×25 000.) (**c**) On immunofluorescence, the amyloid deposits stained strongly for λ (and IgG) and were negative for κ, IgM, and IgA. (Original magnification, ×400.) (**d**) IgG subtype staining revealed strong positivity for IgG1 and complete negativity for IgG2, IgG3, and IgG4 (not shown). (Original magnification, ×400.)

A 73-year-old male with a history of chronic kidney disease (creatinine 1.8 mg per dl for the past 2 years) and anemia was found to have full nephrotic syndrome with a 24-hour urine protein of 9 g per day. Urine immunofixation showed an IgGλ monoclonal protein, and bone marrow biopsy was unremarkable. Renal biopsy revealed primary amyloidosis (Figure 1). The amyloid deposits stained positively for λ light chain and γ heavy chain. IgG subtype staining was positive for IgG1 only. The diagnosis of primary amyloidosis in which the amyloid deposits are composed of both light and heavy chains is an extremely unusual occurrence, with only a few reported cases in the literature.